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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------------|---------------------|------------------|
| 10/539,226 | 06/17/2005 | Richard R. Roesler | PO7631US/MD02-174A | 2747 |
| 157 7590 04/22/2009 BAYER MATERIAL SCIENCE LLC 100 BAYER ROAD PITTSBURGH, PA 15205 | | | | |
| EXAMINER PENG, KUO LIANG | | | | |
| ART UNIT 1796 | | PAPER NUMBER | | |
| NOTIFICATION DATE 04/22/2009 | | DELIVERY MODE ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/539,226

Applicant(s)

ROESLER ET AL.

Examiner

Kuo-Liang Peng

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/11/09 RCE.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 10-16 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-16, 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed February 11, 2009 has been entered. Claims 5-9 and 17-21 are deleted. Claim 1 is amended. Now, Claims 1-4, 10-16 and 22-25 are pending.
2. Claim rejection(s) under 35 USC 103 in the previous Office Action (Paper No. 20080808) is/are removed.
3. The text of those sections of Title 35, U.S. code not included in this action can be found in prior Office Action(s).

Claim Rejections - 35 USC § 103

4. Claims 1-4, 10-16 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roesler652 (US 5 932 652) in view of Schmalstieg (US 5 756 751) and Higuchi (US 5 068 304).

Roesler652 discloses a moisture-curable polyether urethane having terminal urea/reactive silane groups derived from an isocyanate-containing polyether and a compound containing an alkoxy silane group and an aspartate group. The isocyanate-containing polyether can contain both **polyfunctional** and **monofunctional** polyethers. (col. 2, lines 21-38 and col. 8, lines 37-52) The isocyanate-containing polyether can be derived from a polyether polyol having a molecular weight described in col. 5, lines 11-25. Furthermore, chain extender can be employed. (col. 2, lines 24-38) As such, the sum of the number average molecular weights of all of the polyether segments per molecule should fall within the claimed range. Roesler652 is silent on a polyether urethane having a) terminal cyclic urea/reactive silane groups, b) the degree of unsaturation as set forth in the instant claims, and c) the relative amounts of the polyfunctional and monofunctional polyethers. For a), Schmalstieg discloses a moisture-curable polyether urethane containing an alkoxy silane group and a hydantoin group, which can clearly be obtained by cyclizing Roesler652's urea/reactive silane group. The motivation of cyclizing Roesler652's urea/reactive silane group is to afford a moisture-curable polyether urethane that does not suffer from the incompatibility, inhomogeneity and viscosity problems. (col. 1, lines 7-10 and col. 2, lines 22-45) In light of the foregoing benefit, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to convert Roesler652's terminal urea/reactive silane group into the terminal group taught in Schmalstieg's disclosure with expected success. Especially, Schmalstieg is in the same field as that of Roesler652's endeavor. For b), Higuchi teaches the use of a polyether having a degree of unsaturation of not higher than 0.07 meq/g, for example, 0.02 meq/g in a moisture-curable polyether urethane. The motivation is to avoid a deterioration of the physical properties due to an unsaturated monool as a by-product. (col. 1, lines 4-9, col. 2, line 49 to col. 3, line 19 and col. 9, line 64 to col. 10, line 18) In light of the benefit mentioned, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Higuchi's polyether with low degree of unsaturation for preparing Roesler652's moisture-curable polyether urethane with expected success. Especially, Higuchi is in the same field as that of Roesler652's endeavor. For c), one of ordinary skill in the art would appreciate that the crosslinking density of the cured product (hence, the flexibility, hardness, etc. thereof) derived from polyfunctional polyethers can be adjusted by the incorporation of monofunctional polyethers because the latter will not involve in crosslinking, rather it merely produces dangling chains thereon. In other words, the relative amounts of the polyethers are Result-Effective variables. Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to employ the monofunctional polyethers in whatever amount through routine experimentation in order to afford a cured product with desired crosslinking density. Especially, Applicants do not show the criticality of the foregoing relative amounts. See MPEP 2144.05 (II).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck, can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

klp

April 17, 2009

/Kuo-Liang Peng/

Primary Examiner, Art Unit 1796